

## HIGHLIGHTS

- Québec obtained **32%** of all CIHR graduate scholarship awards and fellowships between 2000-2001 and 2006-2007.
- It **ranked second**, behind Ontario (39% of awards and fellowships), and remained far ahead of British Columbia (11%) and Alberta (10%).
- Despite its good performance, Québec's share declined, going from 36% of graduate scholarship awards and fellowships in 2000-2001 to 33% in 2006-2007.
- This was the biggest decrease recorded by any of the provinces studied.
- Nonetheless, Québec was the only province whose average share of awards and fellowships was **greater** than its demographic weight (24%) and its share of Canadian graduate students in the health sciences (30%).

## COMPARATIVE STUDIES

### Trends in the distribution of CIHR graduate scholarship awards and fellowships, by province from 2000-2001 to 2006-2007

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Within the Canadian federation, Québec is renowned for the excellence of its research centres, groups and networks and for the competitiveness of their researchers in the health field. Québec researchers and students are usually considered to score excellent results at federal granting agency competitions. The purpose of this study is to measure the performance of Québec applicants at Canadian Institutes of Health Research (CIHR) graduate scholarship programs and fellowship program competitions for the period from 2000-2001 to 2006-2007. This descriptive study makes it possible to: 1) produce a portrait of Québec's performance over time and 2) compare this performance to that of the three other Canadian provinces most active in health research (Ontario, British Columbia and Alberta). It was written alongside a second study on trends in the distribution of CIHR graduate scholarship programs and fellowship program funding, by province.

## MAIN RESULTS

**Overall, for all the graduate scholarship programs and fellowship programs between 2000-2001 and 2006-2007:**

- Québec obtained 32% of CIHR awards and fellowships on average (including new awards and commitments expensed).
- It was number two in rank, behind Ontario (39% of awards and fellowships), and far ahead of British Columbia (11%) and Alberta (10%).
- Québec was the only province whose average share of awards and fellowships was greater than its demographic weight (24%) and its share of Canadian graduate students in the health sciences (30%).
- These results are similar to those concerning funding.

**However, when award trends over time are taken into account:**

- Québec's share decreased, from 36% (35.9%) in 2000-2001 to 33% (32.8%) in 2006-2007. Québec's 3.1 point loss was the biggest of all the provinces studied.
- Despite the decrease in its share of awards, Québec continued to receive more awards and fellowships in relation to its demographic weight or graduate student population in the field of health sciences.
- Ontario (-2.4 points) and Alberta (-1.3 points) also experienced a drop in their respective share of awards and fellowships between 2000-2001 and 2006-2007, however less pronounced than in Québec.
- Only British Columbia posted an increase in its share of awards, which went from 9% to 16% (up by 6.7 points).
- In the period covered by the study, British Columbia moved ahead of Alberta in terms of its share of awards and fellowships and the gap between the two provinces continued to widen.
- British Columbia clearly caught up in relation to its demographic weight and continued to gain ground. Its performance was especially remarkable in consideration to its share of graduate students in the field of health sciences, which was 7% in 2003-2004 (Note 2).
- These results differed slightly from those concerning funding. In the case of Québec, the decrease in the number of awards (-3 points) was not reflected in its share of funding, possibly because its share of M.D. – Ph. D. awards and fellowships increased during the period studied, which would have made up for the decrease in doctoral awards.
- Alongside this, the spectacular rise in the share of British Columbia's awards and fellowships (+6.7 points) was not entirely mirrored in its funding (+5.4 points). This is likely due to the fact that fellowships increased by less than 2%, which had an adverse impact on overall funding amounts, given the weight of fellowships and the amounts granted to fellows.

**Québec's performance for each of the programs:**

- At the Master's level, Québec's share of awards held steady at roughly 30%. Only Ontario managed to increase its share of awards to any significant extent (from 35% to 38%).
- At the doctoral level, Québec's share of awards plummeted, going from 42% in 2000-2001 to 34% in 2006-2007. Ontario (from 39% to 34%) and Alberta (from 8% to 6%) also experienced a decrease in their respective share of awards. British Columbia's share tripled (from 6% to 18%), a remarkable performance, especially in light of the fact that the increase was continuous over time and seemed to create lasting momentum. Beyond the intrinsic quality of British Columbian applicants, could other factors explain this over-performance, notably as regards the support applicants receive in putting their file together? If this is the case, it would be interesting to identify these factors.
- At the M.D. – Ph. D. level, Québec's, Alberta's and British Columbia's respective shares increased by about 6.5 points in recent years, with Québec's moving from 16% to 22%, but well short of its proportion of graduate students in the field of health sciences. The gains by these three provinces were mainly at Ontario's expense, whose share of awards dropped from 56% to 40%, a percentage more in line with its weight within the Canadian federation.

- At the fellowship level, Québec's share of awards remained relatively stable, increasing marginally (from 26.4% to 28%). British Columbia also posted a gain that enabled it to surpass Alberta. Ontario continued with its lion's share of awards, with more than 43% in 2006-2007.
- For the 'other programs' category, Québec's share dipped dramatically (from 35% to 23%). Mainly British Columbia and the other provinces (Manitoba, Saskatchewan, New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and Labrador) benefited from Québec's losses. Analysing this category poses a special challenge, as it is composed of a series of targeted awards.

**Table 1 – Distribution of awards (cumulative) for all CIHR graduate scholarship awards and fellowships (2000-2001 to 2006-2007)**

Province	Master's	Doctorate	M.D. – Ph. D.	Fellows	Other	Total	%
Québec	111	621	21	466	196	1 415	31.6
Ontario	136	596	48	779	201	1 760	39.3
Alberta	45	119	21	197	76	458	10.2
British Columbia	43	203	13	165	77	501	11.2
Other	34	97	5	155	53	344	7.7
<b>Total Canada</b>	<b>369</b>	<b>1 636</b>	<b>108</b>	<b>1 762</b>	<b>603</b>	<b>4 478</b>	<b>100</b>

### Overall distribution of awards

In the seven years covered by the study, CIHR awards (new awards and commitments expensed) totalled 4,478 graduate awards and fellowships, 1,415 of which went to applicants from Québec, for 31.6% of the total (Table 1). This performance exceeded Québec's demographic weight in Canada, which was a little less than 24% at the time.

However, this performance was in line with Québec's share of graduate students in the field of health sciences (30.4% of Canada's share as a whole - Figure 1).

**Figure 1 - Comparison of awards and populations**

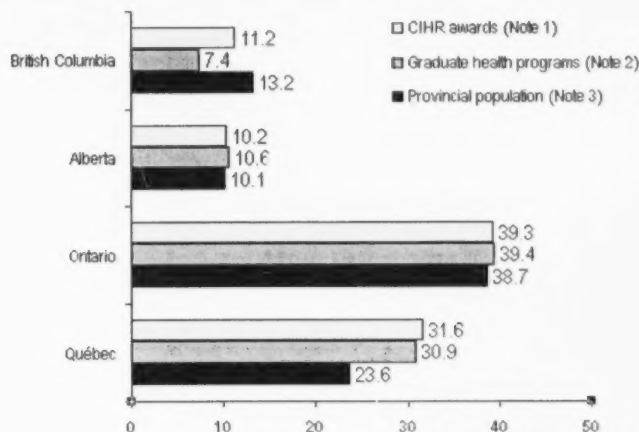
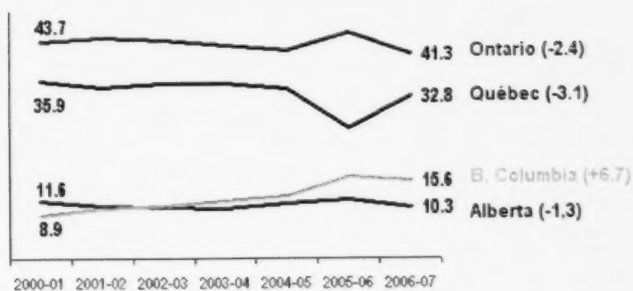


Figure 2 – Distribution of awards (all programs)

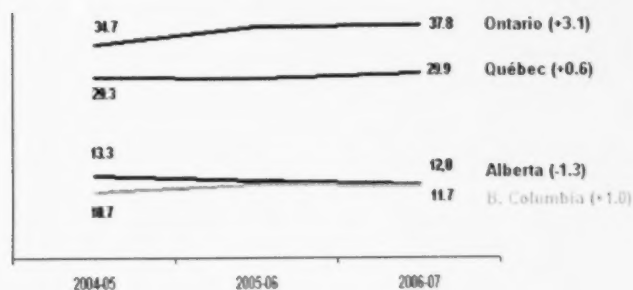


For all CIHR graduate awards and fellowships, Québec's share decrease by 3.1 points (from 35.9% to 32.8 %) in the period from 2000-2001 to 2006-2007 (Figure 2). Ontario and Alberta also experienced losses, with Ontario's share decreasing from 43.7% to 41.3% (down by 2.4 points) and Alberta's, from 11% to 10.3% (down by 1.3 points). Only British Columbia enjoyed an increase, from 8.9% to 15.6%, up by 6.7 points.

#### Trends in award distribution by program

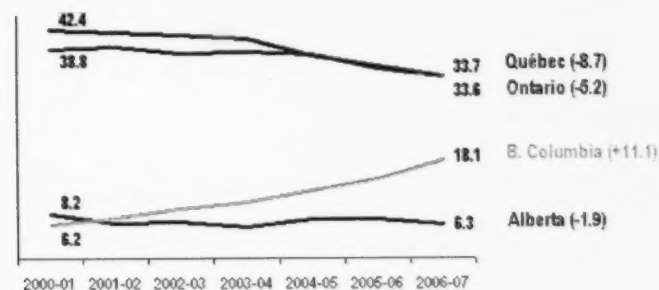
At the Master's level, Québec maintained its share of awards during the period studied, registering a slight increase of 0.6 points (from 29.3% to 29.9% - Figure 3). Ontario and British Columbia experienced increases as well: Ontario, from 34.7% to 37.8% (up by 3.1 points), and British Columbia, from 10.7% to 11.7% (up by 1 point). Alberta's share went from 13.3% to 12% (down by 1.3 points).

Figure 3 - Distribution of awards (Master's)



In terms of Doctorates (regular programs), Québec's share of awards dropped by 8.7 points, from 42.4% to 33.7% (Figure 4). At the same time, Ontario's share decreased from 38.8% to 33.6% (down by 5.2 points), while that of Alberta went from 8.2% to 6.3% (a decrease of 1.9 points). British Columbia's share tripled, from 6.2% to 18.1% (an increase of 11.9 points).

Figure 4 - Distribution of awards (Doctorate)



In M.D. – Ph. D. programs, Québec's share of awards increased in step with that of Alberta, both moving from 16% to 22.4%, a 6.4 point gain (Figure 5). British Columbia enjoyed a similar increase (6.5 points), from 8% to 14.5%. Of all the provinces studied, only Ontario experienced a decrease in its share of awards, from 56% to 39.5%, down 16.5 points.

Figure 5 - Distribution of awards (M.D. – Ph. D.)

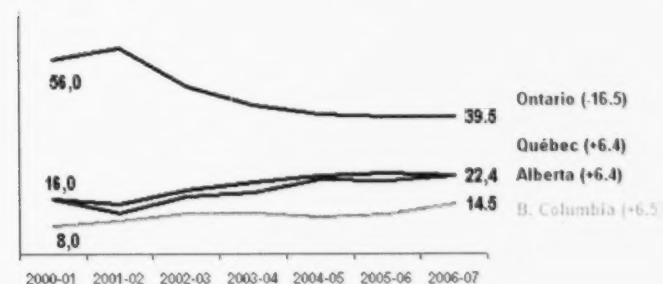


Figure 6 – Distribution of awards (fellowships)

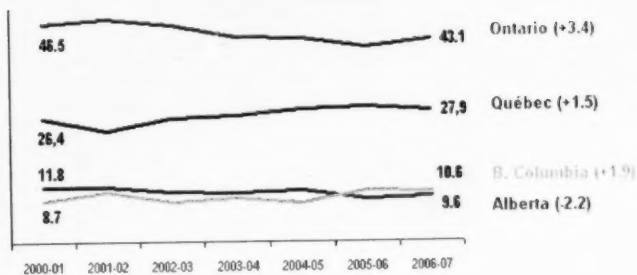
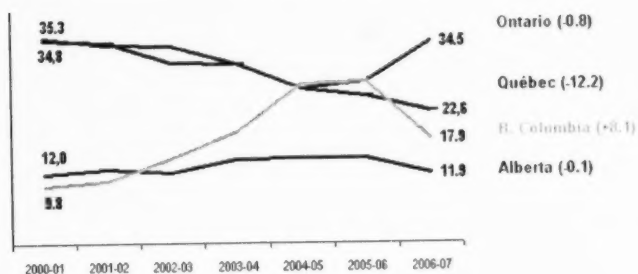


Figure 7 – Distribution of awards (other programs)



At the fellowships level, Québec's share of awards edge upwards from 26.4% to 27.9% for a 1.5 point gains (Figure 6). British Columbia posted an increase of the same calibre, with a gain of 1.9 points, its share of awards going from 8.7% to 10.6%. Ontario and Alberta saw their share of awards decrease: Ontario, from 46.5% to 43.1% (down by 3.4 points) and Alberta, from 11.8% to 9.6% (down by 2.2 points).

As for the other programs, Québec's share went from 34.8% to 22.6%, for a loss of 12.2 points (Figure 7). Had it not been for the last year of the period in question, Ontario's share would have suffered the same downswing. However, in 2006-2007, award shares rallied to reach levels comparable to those of 2000-2001. Ontario therefore ended the period concerned with a slight decrease (-0.8 points), its share of awards down from 35.3% to 34.5%. Alberta held steady with a marginal decrease of 0.1% (from 12% to 11.9%). British Columbia managed to sizably increase its share of awards, from 9.8% to 17.9% (with a spike above 27% in 2004-2005 and 2005-2006). At the end of the period studied, its share had increased by 8.1 points.

## **Methodological notes**

The data used for this study were taken from the Canadian Institutes of Health Research (CIHR) Web site and extracted in February 2007. These annual data cover all awards (new awards and commitments expensed) for a given year. Data spanning several years refer to awards in effect for that period, without duplication.

The use of data about awards contains certain limits that must be taken into account for analysis purposes, for example, with regard to the duration of studies, periods of inactivity or withdrawals from programs. Therefore, differences in behaviour regarding these factors between cohorts from different provinces cannot be identified, nor can differences between annual cohorts from the same province. Data can be compared insofar as the behaviour of different cohorts is similar between provincial cohorts and between the annual cohorts within the same province. The validity of this assumption is strengthened by the fact that the cohorts are composed of the best applicants from each province, which increases the probability that the different cohorts would exhibit similar behaviour.

### **Note 1**

Canadian Institutes of Health Research (CIHR). Distribution of awards (cumulative) for all CIHR graduate scholarship programs and fellowship programs (2000-2001 to 2006-2007).

### **Note 2**

The data on doctoral students in the health field were provided by the Ministère du Développement économique, de l'Innovation et de l'Exportation. They comprise data for 2003-2004 for full-time students in the following university programs: 1) health- and clinical science-related professions; 2) residency programs in medicine, dentistry, and veterinary medicine (even though veterinary medicine cannot be excluded from the category of residency programs, it accounts for a very small proportion thereof); 3) psychology; and 4) biological and biomedical sciences.

### **Note 3**

Statistics Canada. Provincial populations and Canadian population, 2006 data.

# Appendix A – Award data

CIHR – Master's award programs			
	Provinces	Awards	Percentage
2004-2005			
	Québec	22	29.3
	Ontario	26	34.7
	Alberta	10	13.3
	British Columbia	8	10.7
	Other	9	12.0
2005-2006			
	Québec	56	29.2
	Ontario	72	37.5
	Alberta	24	12.5
	British Columbia	23	12.0
	Other	17	8.9
2006-2007			
	Québec	87	29.9
	Ontario	110	37.8
	Alberta	35	12.0
	British Columbia	34	11.7
	Other	25	8.6
FOR THE 2004-2005 TO 2006-2007 PERIOD			
	Québec	111	30.1
	Ontario	136	36.9
	Alberta	45	12.2
	British Columbia	43	11.7
	Other	34	9.2

CIHR - M.D.- Ph. D. award programs			
	Provinces	Awards	Percentage
2000-2001			
	Québec	4	16.0
	Ontario	14	56.0
	Alberta	4	16.0
	British Columbia	2	8.0
	Other	1	4.0
2001-2002			
	Québec	6	14.3
	Ontario	25	59.5
	Alberta	5	11.9
	British Columbia	4	9.5
	Other	2	4.8

CIHR – Doctoral award programs			
	Provinces	Awards	Percentage
2000-2001			
	Québec	177	42.4
	Ontario	162	38.8
	Alberta	34	8.2
	British Columbia	26	6.2
	Other	18	4.3
2001-2002			
	Québec	241	41.8
	Ontario	226	39.2
	Alberta	38	6.6
	British Columbia	44	7.6
	Other	28	4.9
2002-2003			
	Québec	273	41.4
	Ontario	251	38.1
	Alberta	45	6.8
	British Columbia	61	9.3
	Other	29	4.4
2003-2004			
	Québec	262	40.7
	Ontario	246	38.3
	Alberta	38	5.9
	British Columbia	66	10.3
	Other	31	4.9
2004-2005			
	Québec	243	37.4
	Ontario	245	37.8
	Alberta	47	7.2
	British Columbia	82	12.6
	Other	32	5.0
2005-2006			
	Québec	237	35.5
	Ontario	234	35.0
	Alberta	49	7.3
	British Columbia	99	14.8
	Other	49	7.3
2006-2007			
	Québec	229	33.7
	Ontario	228	33.6
	Alberta	43	6.3



<b>2002-2003</b>		
Québec	11	18.3
Ontario	29	48.3
Alberta	10	16.7
British Columbia	7	11.7
Other	3	5.0
<b>2003-2004</b>		
Québec	14	20.6
Ontario	29	42.6
Alberta	12	17.6
British Columbia	8	11.8
Other	5	7.4
<b>2004-2005</b>		
Québec	19	22.4
Ontario	34	40.0
Alberta	18	21.2
British Columbia	9	10.6
Other	5	5.9
<b>2005-2006</b>		
Québec	20	23.3
Ontario	34	39.5
Alberta	18	20.9
British Columbia	10	11.6
Other	4	4.7
<b>2006-2007</b>		
Québec	17	22.4
Ontario	30	39.5
Alberta	17	22.4
British Columbia	11	14.5
Other	1	1.3
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>		
Québec	21	19.4
Ontario	48	44.4
Alberta	21	19.4
British Columbia	13	12.0
Other	5	4.6

<b>CIHR – Other programs</b>			
	provinces	Awards	Percentage
<b>2000-2001</b>			
	Québec	145	34.8
	Ontario	147	35.3
	Alberta	50	12.0
	British Columbia	41	9.8

British Columbia	123	18.1
Other	56	8.2
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>		
Québec	621	38.0
Ontario	596	36.4
Alberta	119	7.3
British Columbia	203	12.4
Other	97	5.9

<b>CIHR – Fellowship programs</b>			
	Provinces	Awards	Percentage
<b>2000-2001</b>			
	Québec	136	26.4
	Ontario	240	46.5
	Alberta	61	11.8
	British Columbia	45	8.7
	Other	34	6.6
<b>2001-2002</b>			
	Québec	145	23.7
	Ontario	291	47.5
	Alberta	71	11.6
	British Columbia	65	10.6
	Other	41	6.7
<b>2002-2003</b>			
	Québec	172	26.4
	Ontario	302	46.3
	Alberta	70	10.7
	British Columbia	56	8.6
	Other	52	8.0
<b>2003-2004</b>			
	Québec	172	26.8
	Ontario	281	43.7
	Alberta	67	10.4
	British Columbia	59	9.2
	Other	64	10.0
<b>2004-2005</b>			
	Québec	164	28.2
	Ontario	252	43.4
	Alberta	64	11.0
	British Columbia	48	8.3
	Other	53	9.1
<b>2005-2006</b>			
	Québec	169	28.8
	Ontario	243	41.5



Other	34	8.2
<b>2001-2002</b>		
Québec	114	34.4
Ontario	113	34.1
Alberta	42	12.7
British Columbia	35	10.6
Other	27	8.2
<b>2002-2003</b>		
Québec	74	31.0
Ontario	81	33.9
Alberta	29	12.1
British Columbia	35	14.6
Other	20	8.4
<b>2003-2004</b>		
Québec	47	30.7
Ontario	47	30.7
Alberta	22	14.4
British Columbia	29	19.0
Other	8	5.2
<b>2004-2005</b>		
Québec	29	26.4
Ontario	29	26.4
Alberta	16	14.5
British Columbia	30	27.3
Other	6	5.5
<b>2005-2006</b>		
Québec	21	25.3
Ontario	23	27.7
Alberta	12	14.5
British Columbia	23	27.7
Other	4	4.8
<b>2006-2007</b>		
Québec	19	22.6
Ontario	29	34.5
Alberta	10	11.9
British Columbia	15	17.9
Other	11	13.1
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>		
Québec	196	32.5
Ontario	201	33.3
Alberta	76	12.6
British Columbia	77	12.8
Other	53	8.8

Alberta	53	9.0
British Columbia	63	10.8
Other	58	9.9
<b>2006-2007</b>		
Québec	160	27.9
Ontario	247	43.1
Alberta	55	9.6
British Columbia	61	10.6
Other	50	8.7
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>		
Québec	466	26.4
Ontario	779	44.2
Alberta	197	11.2
British Columbia	165	9.4
Other	155	8.8

